Alberta
MUNICIPAL AFFAIRS

Innovative Housing Grants Program

RESEARCH AND DESIGN ANALYSIS ROUTINE (RADAR)

Software Program Developed by

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INTRODUCTION

The rapid advance of micro-computer technology has enabled the development of sophisticated software for a variety of business applications. The Research and Design Analysis Routine (RADAR) is one such program which has been specifically developed to assist home builders, architects and engineers with cost estimating and related tasks for wood frame residential construction.

OVERVIEW OF RADAR

RADAR is a software package designed for use on the IBM PC XT or AT and compatible computers using the MS DOS or PC DOS operating system (2.0 or higher).

RADAR consists of a number of modules that are linked together as depicted in Figure 1. Each module and their functions are described as follows:

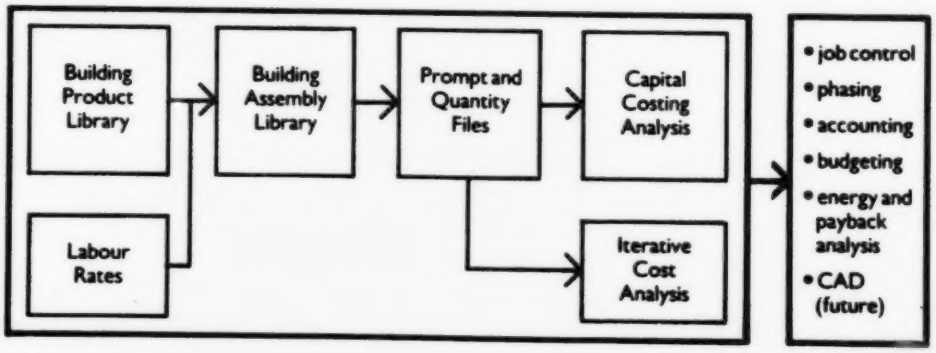

Figure 1: Modules of RADAR

RADAR was developed with financial assistance provided under the Innovative Housing Grants Program, Alberta Municipal Affairs. For more information please contact: Sunearth Software Inc., 14424 - 85 Avenue, Edmonton, Alberta T5R 3Z3 Canada, Phone (403) 484-5303.

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a) Building Product Library is a database containing building products complete with product prices,

b) Labour Rates is a separate database to store unit labour rates,

c) Building Assembly Library is a database containing information that links building products into typical building assemblies with special attributes for labour cost,

d) Prompt and Quantity Files record pertinent information on building assemblies and quantities for project costing,

e) Capital Costing Analysis produces the actual cost estimate, and

f) Iterative Cost Analysis produces cost estimates for the same structure using alternative building assemblies.

HOW RADAR WORKS

Cost Estimating

RADAR's costing program is the starting point in the cost estimating process. To generate a cost estimate two files are required: a prompt file and quantity file. A prompt file is an itemized list which asks questions required to cost a structure such as: lineal feet of foundation wall, square feet of roof area, start up cost etc. After the prompt file has been completed the computer will transform the prompt file into an input file which requests quantities and assembly names for each element of the cost estimate.

Both prompt and input files can be stored on disk and can easily be edited as required or edited and saved for a new cost estimate for another structure.

Based on the prompt and input file RADAR can generate the following cost reports which are shown in Figure 2.:

a) a summary cost report providing material cost, labour cost, total cost and percentage of overall cost of each element (prompt);

b) an intermediate cost report providing material and labour cost, a description of the assembly, total cost and percentage of overall cost of each element; and

c) a detailed cost report providing material and labour costs, a description of the assembly, a description of the products included in the assembly, total cost and percentage of overall cost of each element.

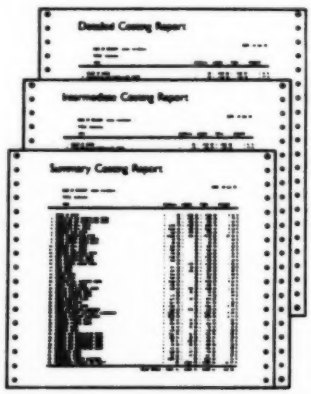

Figure 2: Cost Reports of RADAR

Database Maintenance

RADAR provides a complete management system to organize the product library and the assembly library.

Building products complete with costing data are organized in series of divisions and subdivisions similar to the uniform construction index. Products records can be quickly updated as well as deleted, edited, listed on screen or printed in various formats, as is shown in Figure 3. Alphabetic and numeric indexes are provided to facilitate database management.

Building assemblies are grouped into various categories and they contain assembly information such as assembly name and description, building product types, quantities, labour cost related information etc. Assembly files can be manipulated similar to building products library.

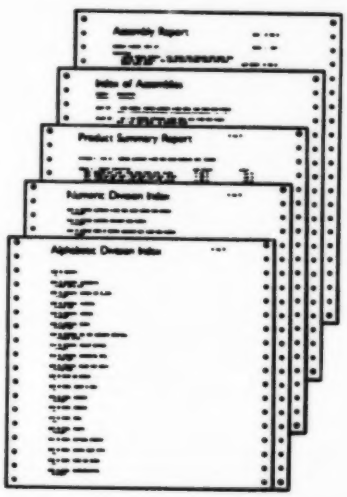

Figure 3: RADAR Database

HARDWARE REQUIREMENTS

In order to run RADAR the following hardware is required:

- an IBM or compatible micro-computer with 256 Kilo bytes of random access memory
- one 360 Kilo byte 5 1/4" floppy disk drive
- one 10 megabyte hard disk drive (20 megabyte recommended)
- one dot matrix printer